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ML Directorate pioneers all-composite deck

by Sue Baker, ASC Public Affairs

WRIGHT-PATTERSON AFB, Ohio — Less than a mile from where the Wright brothers perfected their “grand flying machine” on Huffman Prairie, the first vehicular bridge with an all-composite deck opened Oct. 22. Commemorated with a formal ribbon-cutting ceremony, the event marked another historic moment in the base’s long history of advanced materials research and innovative application of emerging technologies originally created for military war fighters.

“The Materials and Manufacturing Directorate of the Air Force Research Laboratory here has pioneered development and implementation of advanced composite materials and processes into state-of-the-art, aerospace weapon systems,” said Vince Russo, executive director of Aeronautical Systems Center. “These materials, key to U.S. defense supremacy, never corrode and perform exceptionally well at a fraction of the weight of metallic materials. In fact they also last much longer than conventional steel-and-concrete bridges.

“In 1997, our directorate championed transfer of these materials to the transportation community, by fielding the nation’s first all-composite bridge, Tech 21, near Hamilton (Butler County), Ohio,” Russo said. “That bridge is projected to last close to 150 years — much longer than conventional steel-and-concrete bridges.”

In 1998, the directorate also partnered with the National Composite Center in Kettering to establish Project 100, a statewide initiative to promote affordable composite bridges. “And we’re working to help NCC with its ‘Composites for Infrastructure’ initiative now,” Russo said.

Manufactured with new methods and patent-pending materials by WebCore Technologies, Inc., third partner in the effort, the new bridge, which spans Hebble Creek at Gate 16A, will provide improved public access to historic Huffman Prairie for the Inventing Flight celebration in 2003. It features glass and carbon fiber-reinforced, foam core composite sandwich construction that is stronger and more lightweight than conventional materials.

In addition to Russo, others involved in the ribbon-cutting ceremony included Col. Michael W. Hazen, commander of 88th Air Base Wing; Ohio Sen. Steve Austria; Ohio Rep. Kevin DeWine; Dennis Rediker, NCC chairman; Louis Luedtke, NCC president and chief executive officer; William Harrison, Ohio Department of Transportation District 7 deputy director; and Anthony Whitmore, representing

